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the case of a Dutch textile town: Enschede,  
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## Class, Work and Religion in the Female Life Course - The Case of a Dutch Textile Town: Enschede, 1880-1940

*Angélique Janssens* \*

**Abstract:** In recent years it has become an accepted wisdom to assume a close correlation between the productive and reproductive activities of women. This paper therefore examines the extent to which the labour force participation of women in the Netherlands and patterns of demographic behaviour of women are interrelated in the period between 1880 and 1940. The Netherlands hold a special position in that respect since it combines a rather late demographic transition with low levels of female labour force participation that continue well into the 1960s. This paper presents some preliminary results concerning the industrial textile town of Enschede. In the middle of the Dutch fertility decline socio-economic influences did not appear to have been much impact on either marriage or fertility behaviour. Rather, the evidence suggests that the famous triangle of 'women, work and family', at least for early twentieth-century Enschede, should be replaced by the triangle 'women, family and religion'.

### Introduction

In recent years it has become an accepted wisdom to assume a close correlation between the productive and reproductive activities of women. Work, marriage and family should be looked upon as inextricably bound up with each other in the lives of women. In line with this, the work experience of women is considered to be of great importance in demographic history.<sup>1</sup> Generally, it is

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<sup>1</sup> Louise A. Tilly, Joan W. Scott, *Women, work and family*, New York 1978, p. 7.

assumed that labour market participation coincides with low levels of nuptiality and marital fertility.<sup>2</sup> However, it is not clear whether fertility declines as a result of the participation of women in the work force, or that married women with fewer children are simply better able to stay on in the labour market than other women. Concerning the assumed relationship between labour market participation of women and fertility, the Netherlands hold a special position in that it combines a rather late demographic transition with (continuing) low levels of female labour force participation that continue well into the 1960s.<sup>3</sup>

From a cross-sectional analysis of the labour force in 1909 it is clear that for the Netherlands there can be no simple and univocal relationship whereby low levels of labour force participation result in high nuptiality and fertility rates.<sup>4</sup> In addition, it appears that there was a considerable regional variety in behavioural patterns. Two other studies into marriage and fertility in the Netherlands, however, clearly demonstrate that female labour force participation is a relevant factor in the explanation of changes in marital fertility in this country.<sup>5</sup> These studies, however, do not address the issue of the nature and content of the relationship between the two factors. This is related to the fact that both studies exclusively make use of macro-level indicators.

Other research underlines the significance of labour force participation of women prior to marriage in relation with marital and fertility patterns of women. With regard to the effects of female wage labour on nuptiality, two competing theories have been formulated. One theory assumes that participation in the labour market reduces marriage to a less attractive alternative for women, while from the opposing perspective this should lead to early marriages and high proportions married.<sup>6</sup> Furthermore, there is reason to assume that the type of labour performed by women is of consequence for age at marriage and marriage frequency. Women engaged in industrial work, which

<sup>2</sup> Marry Niphuis-Nell (ed.), *Demographic aspects of the changing status of Women in Europe*, Leiden 1978; M.S. Teitelbaum, *The British fertility decline: demographic transition in the crucible of the Industrial Revolution*, Princeton 1984, pp. 182-183.

<sup>3</sup> See Janneke Plantenga, *Een afwijkend patroon. Honderd jaar vrouwenarbeid in Nederland en (West-) Duitsland*, Amsterdam: SUA 1993; see also: Hettie A. Pott-Buter, *Facts and Fairy Tales about Female Labor, Family and Fertility*, a seven-country comparison, 1850-1990, Amsterdam: Amsterdam University Press 1993.

<sup>4</sup> Th. Engelen, P. Kalkman, 'Vrouwenarbeid en zijn demografische achtergronden. Een momentopname in Nederland anno 1909', *Tijdschrift voor Sociale Geschiedenis* 17 (1991) pp. 295-323.

<sup>5</sup> Th.L.M. Engelen, *Fertiliteit, arbeid en mentaliteit. De vruchtbaarheidsdaling in Nederlands-Limburg, 1850-1960*, Nijmegen 1987; J.H.A. Hillebrand, *Van motivatie tot acceptatie. Een onderzoek naar de daling van de vruchtbaarheid in de provincies Utrecht en Groningen, 1879-1960*, Nijmegen 1991.

<sup>6</sup> George Alter, *Family and the female life course. The women of Venders, Belgium, 1849-1880*, London 1988, pp. 150-152; N.F.R. Crafts, 'Duration of marriage, fertility and women's employment opportunities in England and Wales in 1911', *Population Studies* 43 (1989) pp. 325-335.

is mostly the more remunerative type of employment, are found to have different marriage patterns from women employed within a familial context, such as domestic servants. One other study argues that experience in the labour market prior to marriage also plays a role in the acquisition of knowledge about, and a positive attitude towards, contraception and birth control. Thus it is argued that relatively isolated workers such as domestic servants, when they marry, have more children than women who were employed in factory work before their marriage. For instance, female textile workers in England appear to have been particularly innovative in terms of demographic behaviour, with levels of fertility that were considerably lower when compared to other groups.<sup>7</sup> In addition, it is suggested that sex-segregation on the shop floor is relevant in helping to bring about these particular behavioural patterns.<sup>8</sup> Whether or not women worked, as well as what type of work they were involved in, may have played an essential role in increasing the acceptability of new types of demographic behaviour. Labour market activities outside a familial context, reduced levels of sex-segregation, and ample opportunities on the shop floor to exchange information concerning more modern and liberal attitudes, may have stimulated the diffusion of innovative demographic behaviour among women.

Finally, I will also consider the influence of a number of variables which are standard to demographic analysis. Economic interpretations of fertility decline argue that couples will start to limit their family's size as a result of the reversal of the flow of wealth between generations. Children became an economic burden, rather than an economic asset, as a result of rising costs of education and their later entry into the labour market. These developments will have been relevant earlier, and more strongly, amongst the middle and higher social strata of society, whilst for working class families a large family size will have continued to be economically advantageous for a much longer time. Indications that the lower social strata of society indeed have larger numbers of children born to them are not difficult to find. A family's position in the social hierarchy is therefore incorporated in the analysis presented here.

Cultural factors come into play as well. Research into demographic patterns in the Netherlands can simply not neglect the influence of religion. It has been demonstrated that for the analysis of the level of fertility in nineteenth-century Dutch society, religion was more decisive than a variety of economic factors.<sup>9</sup> The major division was between predominantly Roman-Catholic communities, showing higher levels of fertility, and non-Catholic communities characterised

<sup>7</sup> Angus McLaren, 'Women's work and regulation of family size: the question of abortion in the nineteenth century', *History Workshop* 4 (autumn 1977) pp. 70-81; Eilidh M. Garrett, 'The trials of labour: motherhood versus employment in a nineteenth-century textile centre', *Continuity and Change* 5 (1990) pp. 121-154.

<sup>8</sup> D. Gittins, *Fair sex, family size and structure, 1900-1939*, London 1982.

<sup>9</sup> O.W.A. Boonstra, A.M. Van der Woude, 'Demographic transition in the Netherlands. A statistical analysis of regional differences in the level and development of the birth rate and of fertility, 1850-1890', *A.A.G. Bijdragen*, vol 24 (1984), pp. 1-57.

by lower fertility levels. However, when the fertility decline is conceptualised as a dynamic concept, as a process occurring over a certain time span, a regionally bounded pattern emerges as the dominant explanatory factor, indicating that the western, more modernised provinces of the country were undergoing fertility change earlier and more rapidly than the provinces in the east and the south. However, for our present purposes geographical distinctions in fertility patterns may remain outside considerations.

This paper is part of a wider project on the historical development of the labour force participation of both married and unmarried women in the Netherlands and patterns of demographic behaviour of women in the period between 1880 and 1960. This period not only coincides with the period within which the transition in marriage and fertility patterns in the Netherlands took place, but also with the period within which a modern industrial society took shape.<sup>10</sup> The wider project will focus in particular on the following four urban communities: Rotterdam, Tilburg, Enschede and Zaandam. In the present paper I will be presenting some preliminary results concerning one of the communities under study, the industrial textile town of Enschede, situated in the east of the Netherlands."

### **The Case of Enschede**

Situated in the far east of the country, right next to the German border, Enschede was one of the few Dutch towns that in the 19th century grew out to become a real industrial centre. The economic structure of the town was heavily dominated by cotton textiles. In 1899 51% of the town's total workforce was employed in the textile industry, which figured declined to 38% in 1930. In terms of the town's population, Enschede belonged to the group of middle-sized communities. Its population growing at a rate of 113% between 1899 and 1930, from 24,353 inhabitants to 51,805 in 1930. Migration from other areas into the town had been an important factor in this relatively high growth rate: in 1899 only 44% of the inhabitants was of native birth. The town's social structure was heavily working class and of poor means: around the turn of the century only 9% of the total workforce was able to pay the communal taxation. For Tilburg, a woollen textile town in the south of the country, this was so for 20% of the workforce.

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<sup>10</sup>Th.L.M. Engelen, *Fertiliteit, arbeid, mentaliteit*; R. Lesthaeghe, D.J. van der Kaa, "Twee demografische transitie?", in: D.J. van der Kaa, R. Lesthaeghe (eds.), *Bevolking: groei en krimp*, Deventer 1986, pp. 9-24.

" I would like to thank Aat Liefbroer of the NIDI for his invaluable help and active support in carrying out the event history analysis presented in this part of the paper. He very generously let me profit from his extensive knowledge of and experience in event history analysis techniques.

The cohort that we will be looking at in this section of the paper, also includes Lonneker, an agricultural community around Enschede. In 1934 Lonneker came to be a part of Enschede. Lonneker, which occupied a rather large territory and completely enclosed the town of Enschede, consisted for one part out of industrial neighbours, while others were unmistakably rural and agricultural. Cohort members therefore come from mixed industrial and agricultural backgrounds.

The data used in this study are taken from the Population Registers and the Civil Registers of the town of Enschede.<sup>12</sup> Continuous population registers have existed in the Netherlands from 1849 until 1920 in most cases, or, as in the case of Enschede until 1937. After that date a new form of continuous registration system was introduced consisting of loose sheets, the so-called 'gezinskaarten' (family-cards), based on the registration unit of the family as opposed to the household. The population registers enable the historian to follow the evolution of the family and the household on a day-to-day basis. The population register combines census listings with vital registration in a particularly convenient way. It presents information on demographic events in an already linked format on the entire population, even the very mobile, and it facilitates the computation of a wide range of demographic rates.

The data concern one cohort of 277 women born in Enschede and Lonneker, a rural and partly agricultural community around Enschede, between 1881 and 1885 resulting from a nonselective sample taken from the town's birth registers. All women in this sample surviving until their 15th birthday were admitted to the cohort and followed through the Population Registers until they disappeared from observation or until the registers were closed down in 1937. For all women the entire life course was reconstructed, including all information on their demographic and occupational careers. In case a woman married and the date of her marriage could not be verified, she was excluded from analysis. This left a total of 277 life histories, 212 of which included a first marriage at some point, while the remaining 65 life histories disappeared from observation, either through death or through migration, before a marriage could take place.

The longitudinal data for this cohort are analysed with the help of 'event history analysis'. This label covers a collection of statistical techniques which make possible complex analysis of duration data. Duration data are characterised by their time based and essentially dynamic dimension. Let us take marriage as an example. The phenomenon of marriage is clearly influenced by time in the sense that not every individual marries at the same moment in time, at the same age, and some individuals may never marry. If we

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<sup>12</sup> For more detailed information on the Dutch Population Registers and the type of research that is possible with these sources see also: Angélique Janssens, *Family and Social Change. The Household as a Process in an Industrializing Community*, Cambridge: Cambridge University Press 1993, pp. 50-66.

assume that women (or men) begin to have a chance of contracting a marriage after age fifteen, event history analysis examines the time span from that age onwards until the moment the woman indeed marries or until she can no longer be observed, for instance because she dies at age thirty-four. Then she no longer has a chance of entering into a marriage. Therefore, in a general sense, event history may be described as a method whereby the duration is examined between the beginning of exposure to the 'risk' of a certain event, until the actual occurrence of the event. This changes the type of questions that are posed from, for instance, »at what age do women marry on average« to the question »what is the risk that women marry before age thirty-five?«.<sup>13</sup> Results of event history analysis are usually expressed in the sense of 'rates of transition', that is the rate with which women are undergoing that event of marriage at any age in between age fifteen and age forty-five.

This type of analysis has an obvious, and also a major, advantage over the more traditional approaches. In event history analysis it is possible to include all women, not only those who eventually marry, but also those women we lose from our population because they die or migrate before they have had a chance of marrying. This phenomenon of individuals who exit from observation is called 'censoring' in event history terminology. For example, a woman who exits out of the research population because she migrates to another town at age thirty-five without having married, contributes to the observation of the 'risk' of 'entering into a first marriage' each year she is present following the beginning of observation at age fifteen until the moment of migration. In more traditional approaches, which are more static - this specific life-course would not be included for the calculation of, for instance, the median age at first marriage, thereby leading to a downward bias in the data. Computation of the median age at first marriage would in this case be too low. In addition, we should realise that most of the more traditional approaches only include those women who never migrate before they marry but rather remain within their town of residence. In the above example, the migrating woman of thirty-five would not be able to contribute to the investigation of age at marriage. Therefore, event history is able to capture more of the complexities and the dimensions in the lives of the people that we study.

Finally, event history analysis also comprises complex techniques, the so-called 'hazard models'<sup>14</sup>, which facilitate multivariate analysis of these time-based phenomenon. Essentially, these hazard models produce results very much like regression analysis, so that it becomes possible to determine which

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<sup>13</sup> Paul D. Allison, *Event history analysis. Regression for longitudinal event data*, Sage 1984; James Trussell, Timothy Guinnane, 'Techniques of Event History Analysis', in: David S. Reher and Roger Schofield (eds.), *Old and new methods in historical demography*, Oxford 1993, pp. 181-205; see also: G. Alter, *Family and the Female Life Course*, pp. 25-62.

<sup>14</sup> The English term of 'hazard' may be equated to 'risk'.

factors are more influential than others in explaining the patterns that were found. The hazard models indicate the variables that most strongly and significantly determine the rate with which women are undergoing the event under study. Moreover, these models are especially suitable for complex analysis of relatively small datasets.<sup>15</sup>

## Entry into Marriage

The questions that we will be looking at here, are the following. To what extent did the labour market experience of young women influence their choices and/or chances of marriage? As we have seen before, one theory assumes that participation in the labour market reduces marriage to a less attractive alternative for women, while from the opposing perspective this should lead to early marriages and high proportions married. Furthermore, the type of labour performed by women should be of relevance to age at marriage and marriage frequency. Women engaged in industrial work, mostly the more remunerative type of employment, may have different marriage patterns from women employed within a familial context, such as domestic servants.

In order to categorise by occupation, I used the woman's first and second occupational entry found in the Population Registers. In case the first entry stated 'no occupation', I used the second entry, but only if this stated a different occupation. Mostly these occupational entries date from around 1900 to 1910, when cohort members were between the ages of 20 and 30. All occupational entries refer to occupations before marriage; unfortunately, married women's work was hardly ever registered.

Women in Enschede around the turn of the century were found in only a few occupations. Coming from a working class background, a girl either went into textiles as a weaver, or became a needlewoman or domestic servant. It is clear that weaving was the preferred occupation, which is not surprising given the dominant position of the textile industry in the local labour market. However, the low numbers of domestic servants are also clearly related to the town's social structure which was heavily working class. Furthermore, one in every four women was listed as having 'no occupation'. It is expected that indeed this group was mostly not active in the labour market, either not at all or not in any individual way. One-third of the women in this category were coming from better-off families who probably could afford to do without their daughters' market labour. However, two-thirds of the women without any occupation came from working-class or farming families. One could assume that the farmers' daughters were working on the family farm without being considered 'employed' by the civil servants managing the population registers. Given the

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<sup>15</sup> For an instructive example see: L.L. Cornell, 'Analyzing the consequences of family structure with event-history methods', *Historical Methods* 23 (1990) pp. 53-61.



fact that many working class families still owned plots of land in the first half of the twentieth century, it is likely that working-class families still had ample opportunities to employ daughters gainfully within the family economy.

For the women belonging to this cohort there clearly was a proper age for the transition into a first marriage, which was between the ages of 25 and 29 with a median age of 26,5 years. If a woman was not married by the age of 30, chances were only minor that she would enter into a first marital union after that date. By the age of 40 about 18% of the cohort was still unmarried and would remain that way, which is only slightly above the national average for this birth cohort.<sup>16</sup>

Between the different female occupational groups differences did exist in the rate of entry into a first marriage. As can be seen from figure 1 below, the rate with which female weavers and women without an occupation experienced the transition into marriage was considerably higher than for women in domestic service. Women in teaching and retailing had rates somewhere in between. The differences in the rate of transition imply that after age 30 to 34 only a little over 10% of the female weavers are still unmarried, whereas for women in domestic service this still is almost 40%.

Differences also existed according to the social class position of the father. Social class position of the father was measured by taking his occupation in 1900 which was then classified according to a mixed system of occupational prestige and class position.<sup>17</sup> As can be seen from table 2, the social background of cohort members is clearly of mixed industrial and agricultural background. One quarter of all cohort members have fathers employed in agriculture, while 60% of the fathers are from working class backgrounds, mainly involving the textile industry. The character of the town is strongly working class, which is evident from the small top on the social pyramid consisting of some middle and very few upper class families. Because of small numbers these families have been grouped together. In this group we mostly find the larger and smaller employers, the professions and some higher officials and bureaucrats.

A young woman's chance of contracting a marriage in early 20th century Enschede did certainly vary with her social background, although differences appear to be surprisingly small. In the figure below, the different life courses for daughters from all social groups have been set out. The transition into a first marriage came earlier and proceeded more rapidly for women coming from working class backgrounds compared to those women whose fathers were in

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<sup>16</sup> Frans van Poppel, *Trouwen in Nederland. Een historisch-demografische studie van de 19e en vroeg-20e eeuw*, A.A.G. Bijdragen, Wageningen 1992, p. 22.

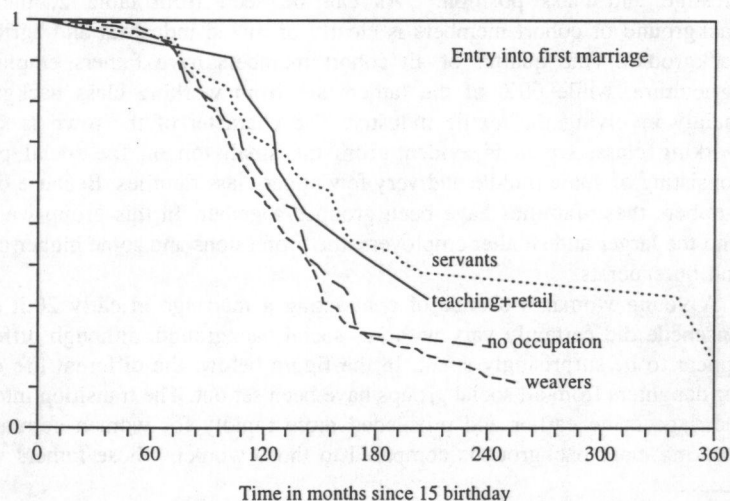
<sup>17</sup> Use was made of the Giele and Oenen classification scheme which is a system based on Dutch mid-nineteenth-century occupations. Occupations are classified according to occupational prestige and employment status (independent versus wage-dependent).

**Table 1:** Distribution of female occupational categories in cohort group<sup>1</sup>

	N	%
teaching/retailing	11	4
needlework/servants	45	16
weaving	152	55
no occupation	69	25

<sup>1</sup> These occupational entries are nearly always taken from the period before the woman's eventual marriage. In nearly all cases none of the women who eventually married had any occupational entries after their marriage. This does not necessarily mean that these married women were not gainfully employed, rather by the dominant family ideology married women were not expected to work for wages outside the home, and they were therefore simply entered in the Population Registers as 'without occupation'. In reality it likely that some of the women in our sample remained in employment for at least a few years after their marriage, until their children were old to make contributions to the family budget.

**Figure 1:** Enschede birth cohort 1881-1885, ple survivor functions by female occupational group



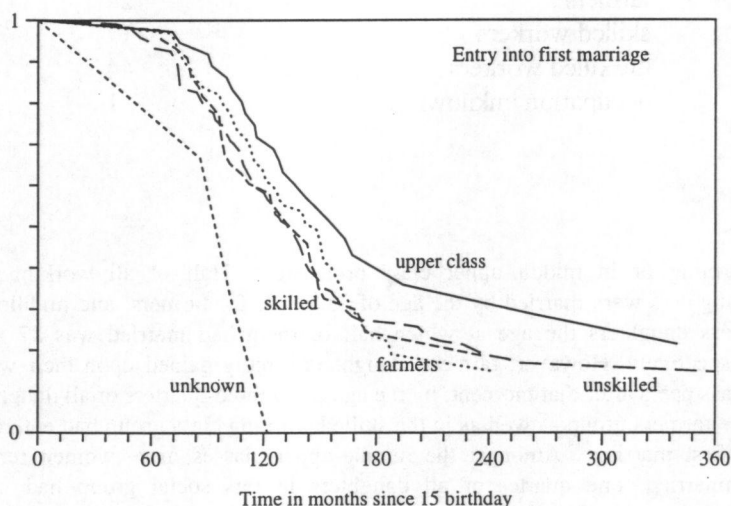
*Table 2: Distribution of social class of father in cohort group*

	N	%
middle and upper class	39	14
farmers	67	24
skilled workers	47	17
unskilled workers	121	44
occupation unknown	3	1

farming or in middle-upper class professions. Half of all working men's daughters were married by the age of 26, while for farmers' and middle-upper class daughters the age at which half of them had married was 27 and 28 respectively. However, farmers' daughters rapidly gained upon their working class peers after that moment: by the age of 29 three-quarters of all daughters in the farmers group as well as in the skilled working class group had entered into a first marriage. Amongst the middle-upper classes more women remained unmarried: one quarter of all daughters in this social group had not yet experienced a first marriage at age 40. Ultimately therefore, differences between farmers and working men's daughters were very limited. Overlooking the entire life course it seems that real differences existed only between upper-middle class daughters on the one hand, and daughters whose father's occupation was unknown on the other hand. This latter group starts its entry into marriage at an amazingly early age and at a rapid pace. By age 24 already three-quarters of all daughters had married. As might be expected, daughters whose father's occupation is unknown are a special group. To begin with, the number of observations in this group is only very small, in all this group contains 3 cases. In addition, the familial situation of these girls might be called unstable: one of them was living as a step-daughter in the new household of her mother who had remarried while the original household of the mother's first marriage could not be found in the registers. The parental households of the two other girls had left no traces in the Population Registers so that the fathers of these girls may have died or migrated before the girls turned up in the registers for a first time.

The likelihood for a woman to enter into number of other circumstances which may or may not be interrelated. Whether or not a woman's parents die early in life may for instance seriously affect her further life course in various ways. If a father dies, it may well be that the daughter is called upon to remain at home to either take care of younger siblings, or to continue to contribute to the family budget to make up for the male wage that was lost. If a mother dies, the same effect may occur. With both parents already dead, a woman may be

prompted into marriage much earlier than she would otherwise have done. Parental control over marriage having been removed, as well as the need for economic support, could hasten a woman's entry into marriage.



**Figure 2:** Enschede birth cohort 1881-1885, p1e survivor functions by social group of father

In order to measure the relative effect of these variables on the likelihood (or hazard) for a woman to enter into a marriage at a certain age I constructed two hazard models. The first model estimates the effects of a woman's own occupation, the social group of origin of the woman (her father's social group position) as well as the effect of religious denomination. Although, there are no a priori expectations about the way religious beliefs are a relevant influence upon the marital behaviour of young women, the various denominations at that time did have diverging attitudes on issues such as family life, and women's position in family and society.<sup>11</sup> The second hazard model incorporates a number of demographic variables: the death of a mother, the death of a father, and the death of both parents. Furthermore, this second model looks at whether or not pre-marital sexual activities are related to a woman's chances at marriage. If young unmarried women engage in sexual activities which result in pre-marital pregnancies or pre-marital births, to what extent is there a tight connection with marriage? Or did girls then run a severe risk of ending up on their own? These hazard models produce coefficients that are like regression

<sup>11</sup> See e.g. Frans van Poppel, *Trouwen in Nederland*, p. 200.

coefficients. The independent variables may be either continuous or categorical. The larger the hazard coefficient, for entry into marriage in this case, the sooner the marriage will occur. With categorical variables, one value is omitted as a reference category. In that case, the remaining values can be interpreted relative to the excluded category. For instance, if we want to know whether certain female occupations represent impediments to marriage, we need to look for negative coefficients for female occupational categories.

**Table 3: Two hazard models of entry into first marriage, Enschede birth cohort 1881-1885**

Variables	Model 1 Coeff	Signif	Model 2 Coeff	Signif
Occupation of woman (textiles omitted)				
Teaching-retailing	-0.6042	0.8674	-0.5376	0.8176
Servants-seamstresses	-0.5531	0.9900 *	-0.3838	0.9083
No occupation	-0.1331	0.5238	-0.0474	0.1898
Occupation of father (unskilled labourers omitted)				
Middle upper class	-0.2448	0.6380	0.0528	0.1442
Farmers	-0.0390	0.1799	-0.0955	0.4098
Skilled labourers	-0.0381	0.1487	0.0963	0.3514
Occupation unknown	1.1247	0.9389	1.1349	0.9295
Religion of woman (Protestant omitted)				
Roman-Catholic	-0.1828	0.7484	0.0842	0.3909
Other denominations	-0.1157	0.2339	0.2505	0.3402
Father dead			0.0893	0.3451
Mother dead			0.4300	0.9668 *
Both parents dead			-0.0478	0.1008
Have child			1.1078	0.9888 *
Pregnancy			3.7091	1.0000 *

\* coefficient is at least twice its standard error

Looking at the estimations of model 1 it is clear that compared to female weavers all other female occupations lead to smaller hazards for entry into marriage. Teachers, shop-keepers, servants and needlewomen, as well as women without any occupation, all marry later than do female weavers.

However, the effect for women without any occupation is only minor; and furthermore, it is only for servants and seamstresses that results are statistically significant. Women employed as servants and seamstresses therefore can be regarded as the only group with a marital pattern different from female weavers.

In model 1 a woman's social background, in terms of her father's occupation, on the whole renders only weak results or in any case results that are not statistically significant. Compared to unskilled labourers' daughters all other young women marry later, except for those whose father we did not know at all. And it is only for this latter category that results are strong. However, as we have argued before, women whose father did not show up in the Population Registers, formed a quite small and a quite special group. Therefore, these results indicate that a girl's social background is quite irrelevant to her chances of marrying at a certain age. Finally, model 1 makes clear that religious denomination can be disregarded as having any influence on marital patterns, in as far as age at first marriage is concerned. Compared to Protestant women, Catholic women do marry a little later, while the same may be said about the small group of women with yet other denominations. However, effects are very weak and insignificant.

In the second hazard model I have included the demographic variables already mentioned above, which changes the picture considerably. Female weavers still marry earlier than all other women, however, effects are not significant anymore. The father's occupation clearly is irrelevant to the issue at what age a woman marries. Some of the coefficients for father's occupation have changed signs from negative to positive, but are still not statistically significant.

However, a woman's familial circumstances appear to be much more decisive than her socioeconomic attributes. First of all, although results on the variable »occupation father unknown« may have raised the suggestion that the complete absence of a father in a girl's life prompts her to marry much earlier, it is clear that with a regular family life including parents and siblings, the death of a father has no such effect. Whether or not a girl's father dies before she has a chance to marry does not seriously affect her further life course. There is a slight positive influence on her chance to marry, though not significant.<sup>19</sup> In contrast to that, the death of a mother does have serious and significant consequences in that it increases the daughter's likelihood of entering into a first marriage. Amongst daughters there is apparently a higher level of solidarity with lone mothers than with lone fathers. The fact that with the loss of a father there is also the loss of the main male wage earner may help to

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<sup>19</sup> Any disturbing effects on this result through the influence of the variable »fathers occupation unknown« may be excluded. If we include those cases (N=3) where we do not know the father's occupation into the category »father dead«, results remain virtually unchanged.

explain this phenomenon. A lack of economic resources of female headed households kept a daughter at home longer than she otherwise might have done. This pattern has been demonstrated before by George Alter for 19th century Verviers where daughters had similarly diverging levels of solidarity towards lone parents.<sup>20</sup> Cumulative effects of the death of both parents however cannot be detected.

Pre-marital conceptions and the chances at marriage for young women in Enschede were strongly and significantly related to each other. Young women with premarital conceptions were sure to marry before the child was born. It may either be that these young women had decided to enter into sexual relations only after a clear promise of a marriage had been given by their husbands-to-be, or it could also be the case that marriage was enforced by the community following a premarital pregnancy. Whatever the case may be, it is likely that the disappearance of the earlier differences between domestic servants and female weavers in the hazard for marriage can be attributed to the differential occurrence of premarital pregnancies. Female weavers were more willing to enter into sexual relations before their marriage, and they therefore had a larger hazard for entry into marriage. Once a premarital pregnancy had resulted in a birth without a marriage having taken place, it was evidently a more difficult matter for the young woman to ensure a marriage. A pre-marital birth still has a strong and significant positive influence on a woman's chance to marry, but the lesser magnitude of this coefficient (1.1078 compared to 3.7091 for pre-marital pregnancies) suggests that some premarital pregnancies failed to conclude with marriage.

## **Motherhood and Family**

It has already been made clear that fertility levels in the Netherlands differed between areas and regions even up to the 1960s. The major division in the country ran between the northwest, with much lower overall fertility levels, and the south-east, where fertility remained at rather high levels. However, the urban-rural division ran right across this geographical divide. From the 1960 census it is clear that marital fertility in the rural communities around Enschede was considerably higher than in the urban area of Enschede. Marital fertility rates for rural communities ranged from 348.1 and 364.7 in the 1908-1911 period, while for Enschede this figure was 250.3. This difference still existed in the 1960s. The relatively modern character of Enschede also shows up when compared with other south-eastern towns, such as Tilburg which was also an industrial textile town situated in the south of the country.

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<sup>20</sup> George Alter, *Family and the Female Life Course. The Women of Verviers, Belgium, 1849-1880*, Wisconsin: The University of Wisconsin Press, 1988, p. 159.

In this final part of the paper, we will focus on some first results on the relationship between marital fertility and women's work in Enschede. To what extent did the pre-marital work experience of young females influence their reproductive careers? As we have seen before, it is generally assumed that female labour market participation during marriage coincides with low levels of marital fertility. Other studies argue that experience in the labour market prior to marriage also plays a role in the acquisition of knowledge about, and a positive attitude towards, contraception and birth control. Thus it is argued that relatively isolated workers such as domestic servants, when they marry, have more children than women who were employed in factory work before their marriage. In addition, it is suggested that sex-segregation on the shop floor is relevant in helping to bring about these particular behavioural patterns.

Apart from female occupation before marriage, we need to look at some additional variables that are relevant for fertility differentials. Obviously, the first of these is the occupation of the husband. The expectations, based on other research on the Netherlands, is that fertility levels increase with decreasing social status. Middle and upper class families are likely to have fewer children than do working class families. In the debate on the Dutch fertility decline religion plays a dominant role. Roman-Catholic families are expected to have had much larger families than the more liberal Protestant denomination (Dutch-Reformed), while orthodox Protestant (Calvinistic) families were more comparable to Catholic families. Table 4, which contains results of the 1960 census, confirms this image for Enschede by revealing clear socio-economic and religious influences.

The hazard model presented below attempts to provide a first test for the variables influencing marital fertility in the first Enschede cohort. The estimates are constructed by following the reproductive careers of the 212 women in this cohort who at some point in their lives married for a first time. Each of these marital histories is divided into intervals between different births, if any occurred, from the moment these women married. The model estimates how different variables affect the probability for each interval to end in a (subsequent) birth until the woman disappeared from observation or until her first marriage ended because of widowhood or separation. The effect of variables will be investigated separately for parities one to five, while parities six and over will be taken together. The model examines the effect of female occupation prior to marriage, the husband's occupation, the religious denomination of the woman and her age at the start of each birth interval. Because the cohort contained only very few members belonging to one of the more orthodox Protestant churches, I put all Protestant religions into one and the same category labelled »Protestant«. Other models which did distinguish between liberal and orthodox Protestants did not yield any results at all, thereby justifying our categorisation. Given the circumstance that none of the cohort members started off her life course as »non-religious«, but that some women



**Table 4:** Enschede: fertility of first marriages by social class and denomination of the wife, age at marriage for wife < 25, for marriage cohort 1929-1933<sup>1</sup>

	Catholic		Dutch-Ref		Calvinist		No religion	
	N	Mn	N	Mn	N	Mn	N	Mn
I	135	5,2	226	4,0	58	5,0	280	3,0
II	27	4,7	99	2,6	13	3,8	58	3,0
III	38	4,7	51	2,6	8	4,8	50	2,9
IV	2	3,0	22	2,8	3	5,6	13	2,8
V	202	5,0	398	3,4	82	4,8	401	3,0

I = all blue collar workers

II = all white collar workers

III = all self-employed outside agriculture

IV = higher white-collar and professions

V = all social groups

N = number of marriages

Mn = mean number of live births

<sup>1</sup> Source: CBS, Volkstelling 1960 (Census); only contains information for marital unions which were still intact at the time of the census. I have excluded the following categories from this table because of a small number of observations: all agricultural occupations, and the denominational group "other". The census itself excludes all barren marriages.

did switch at some point from one of the religious denominations to non-religious, I constructed an additional variable labelled »Religion switch«. All of these switches into non-religious occurred at the time of marriage, and were mostly related to women marrying non-religious husbands. Obviously, we expect this variable to have a decreasing effect on the fertility level of the woman concerned. In addition, I included the variable »migrant« for those women who married someone from outside of Enschede to see whether newcomers in Enschede behaved differently from those who had lived there all their lives. Finally, a number of demographic variables were constructed. With the age of the mother and the parity number of the birth interval, a declining fecundity should translate itself into longer intervals and a reduced hazard for another birth. Child mortality is one of the standard variables in demographic research and refers to replacement effects of earlier children that have died. If couples were aiming at a preferred family size, and were consequently regulating or limiting their births, they may have decided to replace children or infants that had died. The present model attempts to measure the replacement effect by looking for effects of the death of the previous child, or effects of the

death of any of the earlier children that were born to the woman. Infant mortality may increase the likelihood for a next birth to occur in as far as this event involved the sudden disruption of breastfeeding. However, we do not know for certain if, or for how long the women in this cohort breastfed their infants, so that we will limit ourselves to measuring the replacement effect.

In the table below positive coefficients point to shorter intervals compared to the reference category, while negative coefficients indicate that in the category concerned birth intervals were longer. Longer birth intervals may be either the result of couples spacing between births in an attempt to limit their completed family size, or longer birth intervals may be the result of couples stopping once a certain family size has been reached. The hazard models, unfortunately, are not able to distinguish between the two strategies for family limitation. However, at this stage we will focus on the issue whether the variables under investigation had any effect on the length of women's birth intervals. The hazard model presented in table 5 neglects the interval for the first parity, from marriage to the birth of the first child, but relates to all parities of two and over. The hazard for another birth is observed for first marriages only.

The results reported in table 5 may be interpreted as follows. Contrary to expectation, woman who had been servants and seamstresses prior to their marriage had longer overall birth intervals than was the case for female weavers. Compared to female servants, women involved in textile occupations and in industrial work were more likely to have had larger families as a result of their shorter birth intervals. Women in teaching and retailing occupations, as well as those women who are likely to have been without any occupation at all before their marriage, all seem to have had shorter intervals and were therefore also more likely to have had a higher total number of children. However, effects are weak, whilst significance is poor on all female occupational categories. Women's work prior to marriage therefore does not seem to be a good indicator for fertility behaviour in marriage.

A little surprisingly maybe, the same can be said of the other socio-economic indicator, the husband's occupational category. Coefficients here are even weaker than on the female occupational variables, and nowhere near significant. Skilled labourers and farmers have a positive sign to the coefficient, meaning that, compared to families of unskilled labourers, these families were experiencing shorter birth intervals. As might be expected, lower levels of fertility, that is lower hazards for the likelihood of another birth, are found amongst middle and upper-class families. However, in the absence of any statistical significance, we may dismiss the husband's socio-economic position as a good indicator for family size.

Of the remaining variables in the model, a number of demographic variables stand out with strong and significant effects. We will discuss their interpretation first. Much as we would expect from demographic theory, the age of the mother at the beginning of each birth interval is highly relevant for her chances

*Table 5:* Estimated coefficients of a hazard model for the probability of another birth for parities two and over, Enschede, cohort 1881-1885

Variables	Coeff	Signif
Occupation of woman (textiles omitted)		
Teaching Retailing	0.4183	0.9140
Servants Seamstresses	-0.0456	0.2268
No occupation	0.1189	0.6511
Occupation of husband (Unskilled labour omitted)		
Upper middle classes	-0.1698	0.6869
Farmers	0.0952	0.3671
Skilled labour	0.0027	0.0191
Religion of woman (Protestant omitted)		
Roman Catholic	0.8490	1.0000 *
Others	0.1211	0.3152
Religion switch	0.1415	0.6194
Migrant	0.1233	0.8020
Age mother	-0.0043	0.9999 *
Death of previous children		
Previous child dead	0.0429	0.1804
Any child dead	1.0096	1.0000 *
Parity number (parity 2 omitted)		
parity 3	-0.4201	0.9981 *
parity 4	-0.3775	0.9731 *
parity 5	-0.0689	0.2657
parity 6	0.0764	0.2393
parity 7+	0.4275	0.9234

\* Coefficient is at least twice its standard error

of having a subsequent birth. Age clearly diminishes the likelihood for another birth. The results found for the parity variables conform to results found elsewhere.<sup>21</sup> The likelihood of bearing another child, subdivided by parity, clearly has a U-shaped distribution. Compared to second births, couples had any subsequent births in the parities three, four and five more slowly, whilst in the higher parities, of six and over, birth intervals became shorter again. These results indicate that women with a moderate number of births were (still) trying to limit their family's size, whereas those women who already had had larger numbers of children were not very likely to be limiting their fertility in any way. This might suggest that family limitation is practiced by a subgroup of the population. Results on the variables for parities three and four are highly significant, results for the higher parities, although suggestive for parities seven and over, however are not.

The suggestion that the women of this Enschede birth cohort did have a certain family size in mind, with an eye on which they were trying to regulate their births, is strengthened by the evidence on the variable for child mortality. The death of the previous child had no effect on any subsequent birth, but the death of any of the previous children clearly prompted the couple to substitute for the child that was lost.<sup>22</sup> This evidence is particularly relevant given the sequential nature of event history analysis, the approaches of which explicitly examines subsequent consequences of earlier events. The replacement effect can in this way be tied to the decisionmaking process exercised by couples in the course of their fertility history.

Apart from demographic constraints, this analysis shows the effect of only one other factor, and that is religion. Apart from 'demography', the best predictor for a family's fertility strategy is the Catholic religion. Catholic families in Enschede were having considerably larger families than all other religious groups in this town. This may not be surprising given the fact that the Catholic Church was explicitly and strongly opposing any form of family limitation. The period in which most of these families in our Enschede cohort were going through their reproductive careers, roughly between 1910 and 1930, was a period of emancipation for the Roman Catholic part of Dutch society. Growth in numbers clearly was one strategy in this process. The Catholic community in Enschede was in a position of a large minority which may have

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<sup>21</sup> See Myron P. Gutmann, Susan Cotts Watkins, 'Socio-economic differences in fertility control. Is there an early warning system at the village level?', *European Journal of Population*, vol 6 (1990), pp. 69- 101; and George Alter, *Family and the Female Life Course. The Women of Verviers, Belgium, 1849- 1880*, Madison, WI: The University of Wisconsin Press, 1988, see page 184.

<sup>22</sup> Evidence for replacement effects were also found by George Alter in nineteenth-century Verviers (see also previous note). While his earlier birth cohort (1805-1819) does not show any evidence on substitution for children that have died, the later cohort (1826-1835) increased its fertility in response to any previous child death.

prompted a strong reaction to the Catholic process of emancipation. It is not likely that the higher fertility of Catholic women resulted from a different marital pattern, that is from an earlier age at marriage. Earlier marriages, in the absence of birth control, usually result in higher numbers of children being born because of a woman's higher fecundity at younger ages. From our earlier analysis of the entry into marriage, however, it was clear that Catholic women did not marry earlier than women from other religious groups. If anything, Catholic women seemed to have a slightly lower rate for the entry into marriage compared to other women; however, these differences were far from being significant. It is therefore not unlikely that a relationship exists with the process of Catholic emancipation. Finally, I should point out that no effects on fertility can be detected from a growing non-adherence to any religious denomination. Women experiencing a religion-switch, mostly from being Dutch-Reformed to having 'no religion' at the time of their marriage to a non-religious partner, were not showing distinctly different behaviour from those women who remained within their original faith.

Finally, most of the important variables in the above hazard model had similar effects when estimated for separate parities. In separate models for parities two and three, four and five, and six and over, religion remained of overriding importance.<sup>23</sup> Regardless of which birth interval is examined, Catholic women had much higher risks for another birth to occur. The replacement effect only just failed to have the required significance for the lower parities two-three, and with a modest positive effect, but returned with large positive coefficients and high significance levels for the parities of four-five and six-and-over. Apparently, women did not compensate for the loss of a child by shortening their next birth interval when the major part of their reproductive careers was still to come. The age of the mother at the beginning of the separate birth intervals remained important as well, although not for parities four-five.

## Conclusion

On the basis of the results for this first Enschede cohort I would like to advance the following conclusions. The evidence suggests that the famous triangle of 'women, work and family', at least for early twentieth-century Enschede, should be replaced by the triangle 'women, family and religion'. Women's work did have some influence on the demographic side of the female life course, but this remained restricted to the phenomenon of premarital sexual behaviour, and in connection with this, their timing of marriage. Where it concerns fertility and family size, factory girls did not behave very differently

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<sup>23</sup> No tables on separate models have been included.

from other women. In the middle of the Dutch fertility decline socio-economic influences did not appear to be of much influence on the behaviour in this cohort group. A family's social status, as measured by male occupation, appeared to be an irrelevant factor in fertility decisions. From this analysis Enschede in the first quarter of the twentieth century emerges as a town not horizontally divided along socioeconomic groups, but rather as a society divided vertically, along religious and cultural lines.